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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _03 February 2004_.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-42_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-42_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _02/03/2004_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _See Continuation Sheet_.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-42 are pending for examination.

Information Disclosure Statement

2.   Crossed out portion of the information disclosure statement filed on 5/12/2004,

08/02/2004, 10/04/2004, 12/02/2004, 04/25/2005, 09/06/2005, 10/03/2005, 01/10/2006,

04/18/2006, 09/22/2006, 07/23/2007, 07/25/2007, 09/18/2007, 12/22/2007 has not been

considered by the examiner. In order to be considered by the examiner that information

should be placed in the "Related Application Section" at the beginning of the

specification with updated status of the application including US Patent or Publication

number.

3. The crossed out portion of the information disclosure statement filed 09/06/2005 and

01/10/2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each

cited foreign patent document; each non-patent literature publication or that portion

which caused it to be listed; and all other information or that portion which caused it to

be listed. It has been placed in the application file, but the information referred to therein

has not been considered. In order to be considered by the examiner that information

should be placed in a new 1449 form with a legal copy of the each cited non-patent

literature.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :5/12/2004, 08/02/2004, 10/04/2004, 12/02/2004, 04/25/2005, 09/06/2005, 10/03/2005, 01/10/2006, 04/18/2006, 09/22/2006, 07/23/2007, 07/25/2007, 09/18/2007, 12/22/2007 .

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5.   Claims 15-42 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

6.   As per claim 15, a machine readable medium is not limited to statutory embodiments. In view of applicant's disclosure, specification Paragraph [0068], Paragraph [0069], Paragraph [0071], Paragraph [0072] and Paragraph [0073]. The medium is not limited to statutory embodiments, instead being defined as including both statutory embodiments (e.g., RAM, PROM, EPROM, FLASH-EPROM) and non statutory embodiments (light waves, radio-wave, infra-red, air, signals, transmission media, punchcards, papertape and carrier wave. As such, the claim is not limited to statutory subject matter and is therefore non-statutory. To overcome this type of 101 rejection, the claims need to be amended to include only the physical computer media and not a transmission media or other non-statutory or non-functional medium. Carrier waves and transmission media are not statutory but storage medium would be statutory.

7.   Claims 16-28 are rejected to similar reasons as discussed for their respective parent claims, as they fail to present any limitation that resolve the deficiencies of the

claims from which they depend.

8.   As per claims 29, the claimed apparatus are software per se because "the

mechanism" in the body of the claims are merely software per se, as they are not

statutory.

9.   Claims 30-42 are rejected to similar reasons as discussed for their respective

parent claims, as they fail to present any limitation that resolve the deficiencies of the

claims from which they depend.

Claim Rejections - 35 USC § 112

10.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
subject matter which the applicant regards as his invention.

11.   Claims 1-42 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

12.   The claim language in the following claims is not understood:

      a.   As per claim 1, line 2, it is not clearly understood what is meant by

"global operating system" (i.e. any operating system or the OS). Line 8, it is

unclear what is meant by a "processor set", is it a group of one or more processor?

Line 14, it is unclear what is meant by "set of work" is it scheduling one process

of the first processes group?

b.   As per claim 2, it is unclear where the "global administrator" resides (i.e.

part of the OS?).

c.   As per claim 3, it is unclear where the "partition administrator" resides. Is

the partition administrator residing in the partition or outside the partition?

Furthermore, does every partition has a partition administrator or is it one for all

partitions.

d.   As per claim 6, line 2, it is unclear whether "a determination" is the same

referred to in claim 5 of line 2 (i.e. if it is the same it should be referred to as said

determination).

e.   As per claim 8, line 2, it is unclear whether "a determination" is the same

referred to in claim 7 of line 2 (i.e. if it is the same it should be referred to as said

determination).

f.   As per claim 9, it has the same deficiency as claim 8.

g.   As per claim 12, line 2, it is unclear whether "the partition" is the same as

"the first partition" referred in line 1. (i.e. if it is the same first partition, it should

be referred to as the first partition).

h.   As per claim 14, it is unclear whether "the partition" is the same as "the

first partition referred in claim 1 (i.e. if it is the same, it should be referred to as

the first partition).

i.   As per claims 15-17, it has the same deficiency as claims 1-3.

j.   As per claim 20, it has the same deficiency as claim 6.

k.   As per claims 22-23, it has the same deficiency as claims 8-9.

l.   As per claim 26, it has the same deficiency as claim 12.

m.   As per claim 28, it has the same deficiency as claim 14.

n.   As per claims 29-31, it has the same deficiency as claims 1-3.

o.   As per claim 34, it has the same deficiency as claim 6.

p.   As per claims 36-37, it has the same deficiency as claim 8-9.

q.   As per claim 40, it has the same deficiency as claim 12.

r.   As per claim 42, it has the same deficiency as claim 14.

Claim Rejections - 35 USC § 103

13.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

14.   Claims 1-42 are rejected under 35 U.S.C. 103(a) as being anticipated by Brenner

et al. (Brenner) (US 6,859,926).

15.   As per claim 1, Brenner teaches the invention substantially including a machine-

implemented method, comprising:

establishing, within a global operating system environment provided by an

operating system, a first partition which serves to isolate processes running within the

first partition from other partitions within the global operating system environment (col.6,

lines 17-23) ;

associating a first partition share value with the first partition, wherein the first

partition share value indicates what portion of computing resources provided by a

processor set has been allocated to the first partition (col. 6, lines 24-30; col.7, lines 63-

67);

associating a first process group share value with a first group of one or more

processes executing within the first partition, wherein the first process group share value

indicates what portion of the computing resources allocated to the first partition has been

allocated to the first group of one or more processes (col.1, lines 46-48; col.4, lines 48-

52; col.6., lines 58-60; col.7, lines 63-67; col. 8, lines 16-20).

16.   Brenner doesn't explicitly teach scheduling method of a set of work from one of

the processes in the first group of one or more processes for execution on the processor

set, wherein the set of work is scheduled in accordance with a priority determined based,

at least partially, upon the first partition share value and the first process group share

value. However, it would have been obvious to one of ordinary skill in the art to schedule

a set of work from one of the processes in the first group of one or more processes for

execution on the processor set because one would be motivated to make use of Brenner's

teachings and schedule the tasks that has been given the highest priority resource

allocation according to its class and partition share to improve system performance by

executing the most important task first.

17.   As per claim 2, Brenner teaches a global administrator sets the first partition share value (col.5, lines 16-20; col.5, lines 33-37; col.11, 36-43).

18.   As per claim 3, Brenner teaches a partition administrator sets the first process group share value (col. 4, lines 61-67; col.5, lines 16-20; col.5, lines 33-37; col.11, 36-43).

19.   As per claim 4, Brenner teaches that the processor set comprises one or more processors (col.3, lines 23-26).

20.   As per claim 5, Brenner teaches that based at least partially upon usage history, whether all of the processes in the first group of one or more processes have consumed up to the portion of processing resources indicated by the first process group share value (col.9, lines 18-27; col.10; lines 21-27).

21.   As per claim 6, Brenner teaches that in response to a determination that all of the processes in the first group of one or more processes have consumed up to the portion of processing resources indicated by the first process group share value, assigning a lower priority to the set of work(col.9, lines 18-27; col.10; lines 21-27).

22.   As per claim 7, Brenner teaches that determining, based at least partially upon

usage history, whether all of the processes in the first partition have consumed up to the

portion of processing resources indicated by the first partition share value (Col.7, lines

50-54; col.8, lines 47-49).

23.   As per claim 8, Brenner teaches that in response to a determination that all of the

processes in the first partition have consumed up to the portion of processing resources

indicated by the first partition share value, assigning a lower priority to the set of work

(col.8, lines 47-51).

24.   As per claim 9, Brenner teaches that in response to a determination that all of the

processes in the first group of one or more processes have not consumed up to the portion

of processing resources indicated by the first process group share value, and in response

to a determination that all of the processes in the first partition have not consumed up to

the portion of processing resources indicated by the first partition share value, assigning a

higher priority to the set of work (col.8, lines 41- 46).

25.   As per claim 10, Brenner doesn't teach explicitly that a process with a highest

relative priority has its set of work executed on the processor set next. However, it would

have been obvious to one of ordinary skill in the art to execute the process with the

highest priority next on the processor set because one would be motivated to execute

highest priority first to improve system performance by executing the most important task

first.

26.   As per claim 11, Brenner teaches that the first partition share value represents a

value that is relative to other partition share values sharing the computing resources

(col.12, lines 27-36).

27.   As per claim 12, Brenner teaches that the first partition share value represents a

percentage of the computing resources allocated to the partition (col. 11, lines 36-43).

28.   As per claim 13, Brenner teaches that the first process group share value

represents a value that is relative to other process group share values within the first

partition sharing the computing resources (col.7, lines 50-54).

29.   As per claim 14, Brenner teaches that wherein the first process group share value

represents a percentage of the partition's allocated computing resources that are allocated

to the first group of one or more processes (col.6, lines 12-15; col. 7, lines 63-67).

30.   As per claim 15, Brenner teaches a machine-readable medium, comprising:

instructions for causing one or more processors to establish, within a global operating

system environment provided by an operating system, a first partition which serves to

isolate processes running within the first partition from other partitions within the global

operating system environment (col.6, lines 17-23);

        instructions for causing one or more processors to associate a first partition share

value with the first partition, wherein the first partition share value indicates what portion

of computing resources provided by a processor set has been allocated to the first

partition (col.6, lines 24-30; col.7, lines 63-67);

        instructions for causing one or more processors to associate a first process group

share value with a first group of one or more processes executing within the first

partition, wherein the first process group share value indicates what portion of the

computing resources allocated to the first partition has been allocated to the first group of

one or more processes (col.1, lines 46-48; col.3, lines 24-27; col.4, lines 48-52; col. 6,

lines 58-60; col.7, lines 63-67; col. 8, lines 16-20).

31.   Brenner doesn't explicitly teach instructions for causing one or more processors

to schedule a set of work from one of the processes in the first group of one or more

processes for execution on the processor set, wherein the set of work is scheduled in

accordance with a priority determined based, at least partially, upon the first partition

share value and the first process group share value.

32.   However, it would have been obvious to one of ordinary skill in the art to

schedule a set of work from one of the processes in the first group of one or more

processes for execution on the processor set because one would be motivated to make use

of Brenner's teachings and schedule the tasks that has been given the highest priority of

resource allocation according to its class and partition share to improve system

performance by executing the most important task first.

33.   As per claim 16, it is the machine-readable medium claim of the method claim 2.

Therefore, it is rejected under the same rational.

34.   As per claim 17, it is the machine-readable medium claim of the method claim 3.

Therefore, it is rejected under the same rational.

35.   As per claim 18, it is the machine-readable medium claim of the method claim 4.

Therefore, it is rejected under the same rational.

36.   As per claim 19, it is the machine-readable medium claim of the method claim 5.

Therefore, it is rejected under the same rational.

37.   As per claim 20, it is the machine-readable medium claim of the method claim 6.

Therefore, it is rejected under the same rational.

38.   As per claim 21, it is the machine-readable medium claim of the method claim 7.

Therefore, it is rejected under the same rational.

39.   As per claim 22, it is the machine-readable medium claim of the method claim 8.

Therefore, it is rejected under the same rational.

40. As per claim 23, it is the machine-readable medium claim of the method claim 9. Therefore, it is rejected under the same rational.

41. As per claim 24, it is the machine-readable medium claim of the method claim 10. Therefore, it is rejected under the same rational.

42. As per claim 25, it is the machine-readable medium claim of the method claim 11. Therefore, it is rejected under the same rational.

43. As per claim 26, it is the machine-readable medium claim of the method claim 12. Therefore, it is rejected under the same rational.

44. As per claim 27, it is the machine-readable medium claim of the method claim 13. Therefore, it is rejected under the same rational.

45. As per claim 28, it is the machine-readable medium claim of the method claim 14. Therefore, it is rejected under the same rational.

46. As per claim 29, Brenner teaches an apparatus, comprising: a mechanism for establishing, within a global operating system environment provided by an operating system, a first partition which serves to isolate processes running within the first partition from other partitions within the global operating system environment (col.6, lines 17-23);

a mechanism for associating a first partition share value with the first partition,

wherein the first partition share value indicates what portion of computing resources

provided by a processor set has been allocated to the first partition (col. 6, lines 24-30;

col.7, lines 63-67);

a mechanism for associating a first process group share value with a first group of

one or more processes executing within the first partition, wherein the first process group

share value indicates what portion of the computing resources allocated to the first

partition has been allocated to the first group of one or more processes (abs, 7-11; col.1,

lines 46-48; col.3, lines 23-30; col.4, lines 48-52; col. 6, lines 58-60; col.7, lines 63-67;

col. 8, lines 16-20).

47.   Brenner doesn't explicitly teach a mechanism for scheduling a set of work from

one of the processes in the first group of one or more processes for execution on the

processor set, wherein the set of work is scheduled in accordance with a priority

determined based, at least partially, upon the first partition share value and the first

process group share value.

48.   However, it would have been obvious to one of ordinary skill in the art to

schedule a set of work from one of the processes in the first group of one or more

processes for execution on the processor set because one would be motivated to make use

of Brenner's teachings and schedule the tasks that has been given the highest priority

resource allocation according to its class and partition share to improve system

performance by executing the most important task first.

49.   As per claim 30, it is the apparatus claim of the method claim 2. Therefore, it is

rejected under the same rational.

50.   As per claim 31, it is the apparatus claim of the method claim 3. Therefore, it is

rejected under the same rational.

51.   As per claim 32, it is the apparatus claim of the method claim 4. Therefore, it is

rejected under the same rational.

52.   As per claim 33, it is the apparatus claim of the method claim 5. Therefore, it is

rejected under the same rational.

53.   As per claim 34, it is the apparatus claim of the method claim 6. Therefore, it is

rejected under the same rational.

54.   As per claim 35, it is the apparatus claim of the method claim7. Therefore, it is

rejected under the same rational.

55.   As per claim 36, it is the apparatus claim of the method claim 8. Therefore, it is

rejected under the same rational.

56.   As per claim 37, it is the apparatus claim of the method claim 9. Therefore, it is

rejected under the same rational.

57.   As per claim 38, it is the apparatus claim of the method claim 10. Therefore, it is

rejected under the same rational.

58.   As per claim 39, it is the apparatus claim of the method claim 11. Therefore, it is

rejected under the same rational.

59.   As per claim 40, it is the apparatus claim of the method claim 12. Therefore, it is

rejected under the same rational.

60.   As per claim 41, it is the apparatus claim of the method claim 13. Therefore, it is

rejected under the same rational.

52. As per claim 42, it is the apparatus claim of the method claim 14. Therefore, it is

rejected under the same rational.

Conclusion

53. The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

(EP 1253516 A2) teaches scheduling processing in a fair share basis.

(US 6993762 B1) teaches job queue partitioning and system architecture for

implementing the process.

(US 7096469 B1) teaches capacity limitations in a logically partitioned system.

(Mc Dougall, "Resource management", 1999, Prentice Hall, pages 1-24) teaches

partitioning and resource allocation.

54. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Caroline Arcos whose telephone number is 571-270-

3151. The examiner can normally be reached on Monday-Thursday 7:00 AM to 5:30

PM.

55. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

56. Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patent examiner
Caroline Arcos

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